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Davidson College Visual Arts Facility

Charles Roberts Francis
Clemson University

DAVIDSON COLLEGE
VISUAL ARTS FACILITY

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by

Charles Roberts Francis

Herewith is submitted a Terminal Project
to the Faculty of the College of Architecture,
Clemson University, in partial fullfillment
of the requirements for the degree of

Master of Architecture

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Approved:

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Head, Department of Architectural Studies

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Dean, College of Architecture

DEDICATION

To my wife, for her endurance,
support, and love.

I wish to express appreciation for the assistance rendered by those with whom I have been associated during the preparation of this study.

To Harlan E. McClure, FAIA, Dean of the College of Architecture, who has provided this opportunity.

To R. Wayne Drummond, AIA, Associate Professor, College of Architecture, for his leadership, guidance, and friendship throughout the period of study.

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To Jane Reeves, excellent typist and friend, for her aid in the preparation of this study.

To Dr. Alan Torrence, Associate Chemist and Lecturer, College of Agriculture, graduate of Davidson College for his aid in understanding Davidson College and obtaining information relevant to this study.

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INTRODUCTION

A decision of far-reaching consequences for Davidson College was formulated and acted upon in 1970 by the College's Board of Trustees. Not only did the Board decide to increase the total enrollment of men to one thousand by 1985, but they allowed for the first time in the history of the College the admission of women to classes in 1971. The eventual female enrollment was set at five hundred.[1] Due to this act, spatial problems are now occurring in the living facilities, athletic facilities, and facilities for academic departments with special needs.

The Cunningham Fine Arts Building which houses the mini-departments of visual arts, drama, and music was designed and built in the early 1960's. Natural growth, plus the increasing popularity of the visual arts

courses, is now placing a strain on both the instructors and facilities. Visual arts is now preparing to double its faculty, thus creating a full department. At the present time, basic courses in drawing, printing, and art history are offered with advanced courses in the same areas plus courses in film making and independent study. The development of a sculpture program is needed as is the establishment of seminar courses in art history. Presently the students majoring in the visual arts use the inadequate and condemned Lingle House. Storage is increasingly a problem in that officials administering the occupational and safety codes question the wisdom of placing the acids used in certain printing processes in less than fireproof spaces.

The basic objective of this project is the alleviation of a lack of specialized

space through the creation of a new facility for the Visual Arts Department at Davidson.

Davidson College, founded in 1836 by the Presbyterian Church in North Carolina, is an institution noted for its high academic standards in the southeastern United States. Concern originally centered on the preparatory education of men who would eventually enter the professions of the church, law, or medicine. Through the years, Davidson has branched out to the advanced fields of the sciences and the arts.

During the late 1940's and the early 1950's, Davidson increasingly became aware of the need for education in the arts as part of the intellectual growth of the students and the institution. Thus, the administration has supported the visual arts through the establishment of new faculty positions, sponsorship

of printing and drawing competitions, and the start of a permanent collection.

LOCATION

Davidson, North Carolina:

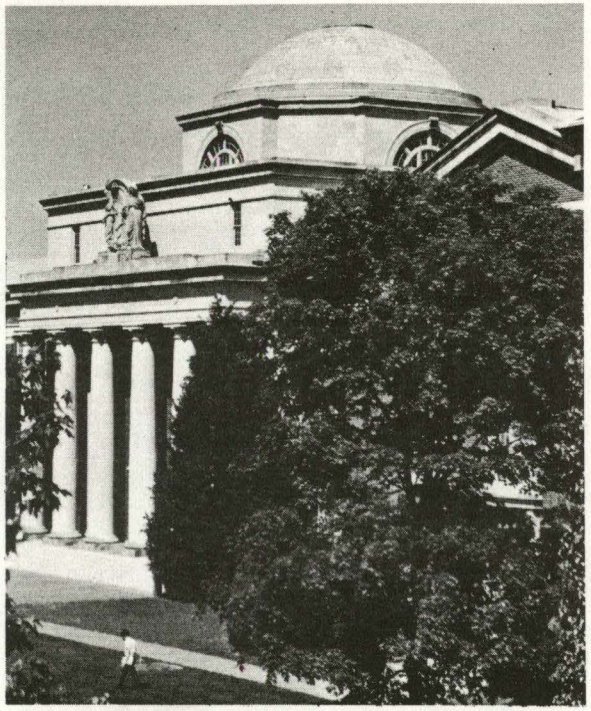
The town of Davidson (established after the college) borders the college to the south and west. Concord and North Main Streets separate the town from the college proper. (Davidson College owns property on both sides of these streets, yet major structures remain on the northern and eastern sides of these streets). Forty small shops, the United States Post Office and the Town Hall form the nucleus of the business district on North Main Street. Otherwise, the streets of the town are residential in character and are generally tree lined. Two industries have located small branches in the western sector of the town near Interstate 77.

Davidson College and the town of Davidson are located near the northern border of

Mecklenburg County, twenty miles north of Charlotte, North Carolina. The college lies within two miles of Lake Norman. Access to the school from Charlotte is via Interstate Route 77. The eastern access is Interstate Route 85 to North Carolina Route 73.

Climatological data for Mecklenburg County which has a direct relation upon the proposed facility follows. The precipitation yearly average is 45 inches. Of that amount, 5 inches is either snow or other frozen precipitate. Fall and winter are normally the driest months. During the year, clear skies occur 42% of the time; partly cloudy, 15%; and the remainder is cloudy.

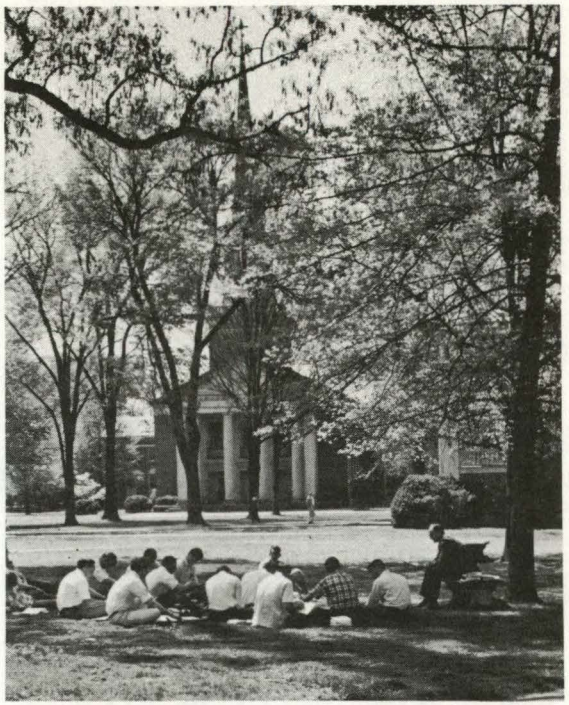
HISTORY



1. Davidson College Chambers Building

During the late 1700's Scotch-Irish settlers in Pennsylvania and New York migrated southward to the Piedmont region of North and South Carolina in search of better land and milder climates. These people were predominately of the Presbyterian denomination and as such were brought up with "a dual faith in God and Education."[2] With this in mind, it is worth noting that churches and "classical" schools were built concurrently upon the establishment of any new settlement.

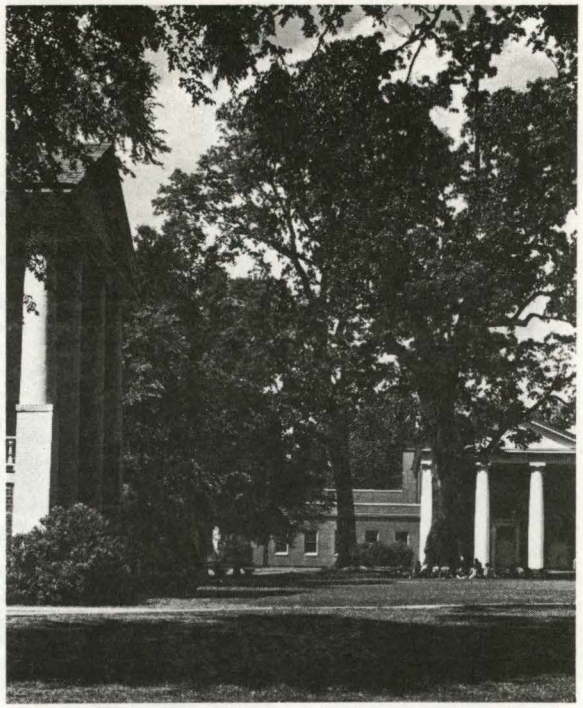
By 1835, Concord Presbytery of the Synod of North Carolina authorized the establishment of an institution of higher learning within its region in the state. This action was brought about through pressure from the Charlotte area churches. By the following year, $30,000 was raised and marked for construction purposes. The land to be used as the site for



2. Davidson College Church

the new college was donated by the family of the late General William Lee Davidson (a Presbyterian Revolutionary War general killed in action opposing the armies of Corwallis in North Carolina).

The original campus design and organization was similar in concept and layout to the University of Virginia as designed by Thomas Jefferson only fifteen years earlier. Large classes and school organization meetings were held in "society halls." Although six halls were originally planned, only two were built and occupied by men holding the chair of their respective subjects. These two structures faced each other at the end of a grass mall. The campus chapel (including smaller classrooms) was located at the north end of the mall. Between the chapel and the two "society halls" on either side of the mall

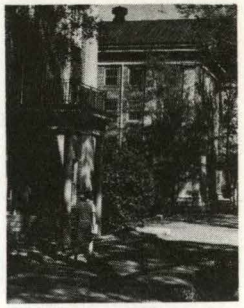


3. Davidson College Fine Arts Court

were two dormitories. Of the original four dormitories, two remain.

Financially, the first twenty years was a period of struggle. The school lacked an adequate endowment and income derived from student fees was low. Concord Presbytery aided the school but felt that it should eventually be self supporting. At times, manual labor from the students was required in order that the school might survive.

Temporary financial stability occurred in 1856. The institution received the sum of $250,000 from the estate of Maxwell Chambers of Salisbury, North Carolina. Being not totally satisfied with the original campus concept, due in part to a change in educational philosophy, the trustees authorized the design of a new quadrangle to the east of the original mall. The major structure in this design was

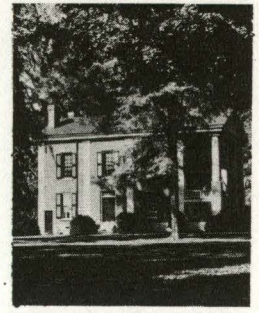


4. Davidson College Dorm Row

built prior to 1860 at a cost of some $90,000. Secession, Civl War, and defeat left the college monetarily in the same position that it was prior to 1856. With the currency change, Davidson's endowment was worthless by the war's end. The design was as the first, never completed.

By the turn of the century, prosperity returned to the region. Then enrollment tripled from the steady 120 students a year of the preceeding period. New dormitories were built to the north the Chambers Building. Total enrollment stood at 500 by 1920.

"Old Chambers" burned in November of 1921. This event which seemed to be a disaster at the time was corrected with minor complications. Although the new structure was designed in the 1920's, the design followed earlier styles and marked the end of innovations in this campus' design.



5. Phi Hall

The late 1930's and the early 1940's brought about the construction of the Grey Library and the Martin Science Building. These structures were part of a program designed to attract high caliber instructors and students to the college. This program continued in the 1950's with the building of the gymnasium and fine arts structures.

Even though strong planning concepts were adopted in the early life of Davidson College, circumstances inherent to the region upset those plans. Later tendencies toward the retention of a basic "style" have led to certain confusing spatial elements and relationships.

CASE STUDIES

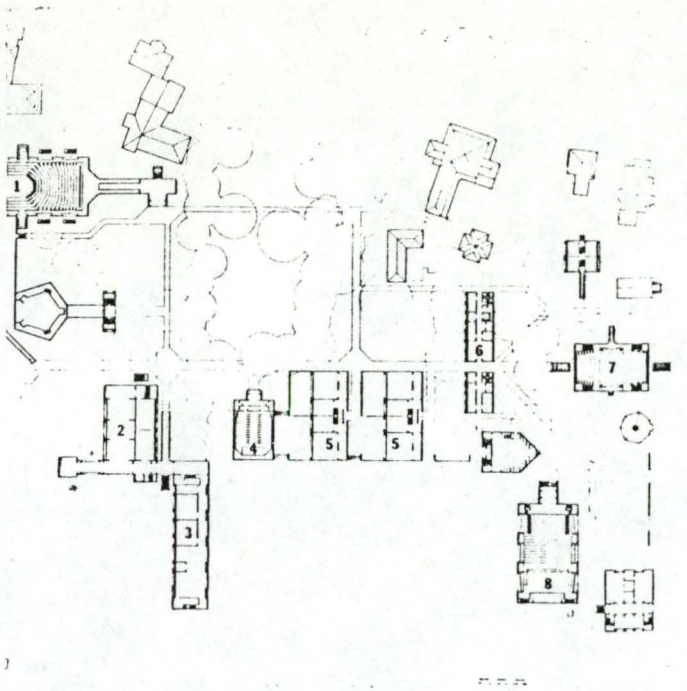
In that all architectural projects, especially those of this scope, respond to certain issues, it would be wise to note the standard criteria by which these projects are judged. The basic issues related to these structures are: spatial organization, lighting, architectural character and integration within the campus context, security, and material usage. These issues and methods of dealing with them can best be studied through a case study process.

"A plan is a society of rooms. The rooms talk to each other and they make up their minds where their positions are. And they must aspire, each room as all comprising, as all rapport with its nature. It must be itself without being named before hand. If you name a room before it becomes a room, it dies."

Louis Kahn[3]

Spatial Organization:

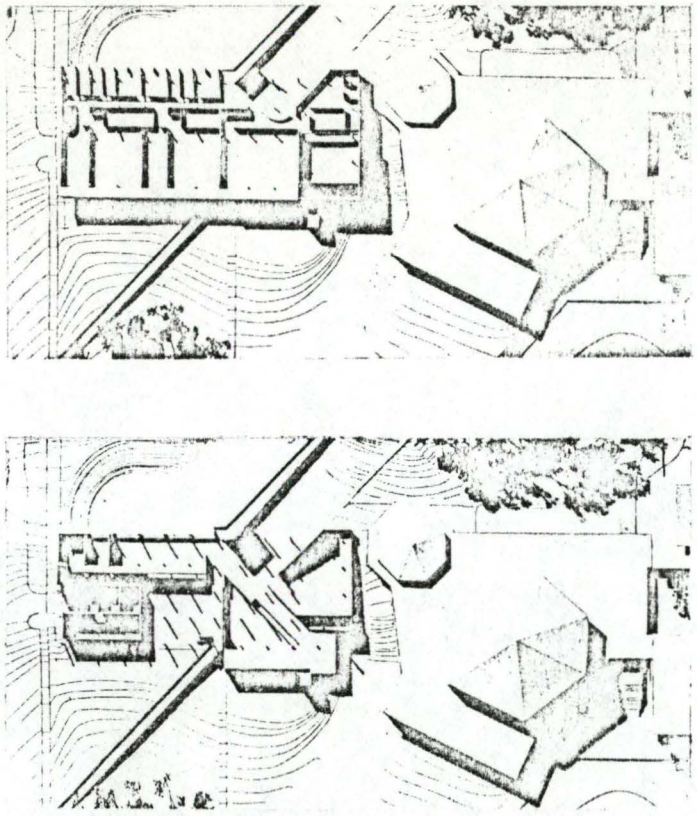
The creative process is essentially cylical in nature, each stage following another or retracing previous stages. Roughly stated, the stages are searching, implementation and evaluation. Throughout history, these activities have taken place in any conceivable space, yet in this age of instiutionalization, it has become both necessary and proper that special spaces be provided for these activities. The spaces, as they have traditionally developed, are the studio, lecture room, and gallery. Associated with these primary spaces are auxiliary spaces which were developed to meet the needs of special conditions. Of the infinite methods possible, the following case studies illustrate clearly defined architectural statements of a similar nature to this project.



6. Wesleyan University

Wesleyan University Fine Arts Center

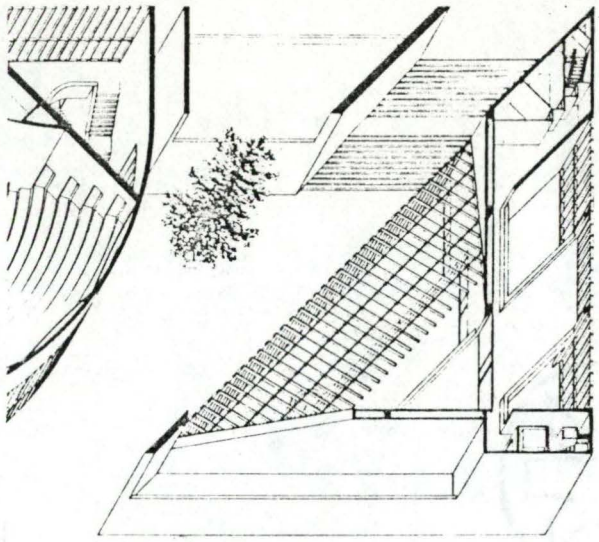
This center, serving a relatively high number of students, is contained in several structures, each of which house separate divisions of the several departments. Each structure is based in plan on a Cartesian breakdown of space. Economies in construction were thus created.[4] Exceptions to the Cartesian organization occur in such special spaces as the auditoriums or the theatres. By using this concept, relatively large numbers of students can be accommodated in specialized workshops without major distractions.



7. Goucher College Visual Arts Building

Goucher College Visual Arts Building

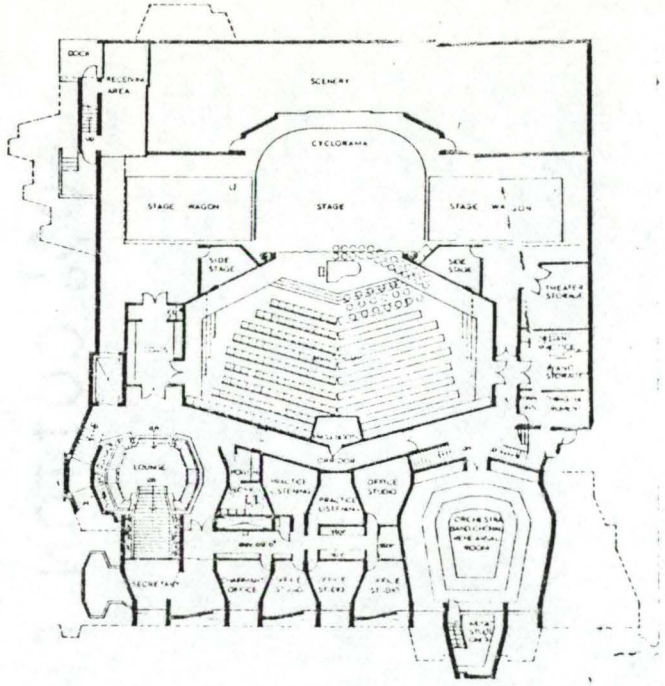
The Visual Arts Department of this Maryland school employs a clear concept to define functional divisions three dimensionally within a single structure. Various studios with their respective auxiliary spaces, professor's offices, and storage areas occupy the upper level which is planned on a Cartesian grid. The rotation of this grid by 45° on the lower level allows the freedom necessary for the functioning of large public spaces, lecture rooms, and galleries. The circulation system defines and locates the spaces and functions on both levels.[5]



8. Paul Mellon Arts Center, Choat and Rosemary Hall

Paul Mellon Arts Center
Choate School and Rosemary Hall

Although encompassing all areas of the fine arts, the teaching structure of this center, as opposed to the performance structure, "expresses the activities of the visual arts through the use of the glazed roof and open mezzanine levels used as studio spaces."[6] Yet these open level studio areas are small shared spaces which do not allow for work continuity. Auxiliary workshops and the teaching spaces for drama and music are located in the basement and in the eastern tower of the structure.



9. Colgate Creative Arts Center

Colgate Creative Arts Center

Although not devoted primarily to the visual arts, this structure is included in study due to its use of space as an element to stimulate perceptions. The plan, based on irregular series of truncated hexagonal grids, is initially confusing. Close inspection though shows an uncompromising spatial sequence of public spaces and instruction spaces.

Some critics call the building "sculptural" or say that it is "heroic," yet the essence of the design is stated in the following by a student:

> This building challenges you to walk through it without being forced to run your hands across the sandpaper walls, the cotton (acoustical) ceiling or the stone floors, not to feel some reaction to the building. It is because of this that the Art Center is Organic. It makes you come and observe it--both mentally and physically. This separates it from most

buildings: You are aware of the structure you are in and take notice of it; you don't walk up and down the stairs with your feet; you pass from floor to floor with your eyes, hands, and mind as well.[7]

"Light: the giver of
all presences . . ."

Louis Kahn[8]

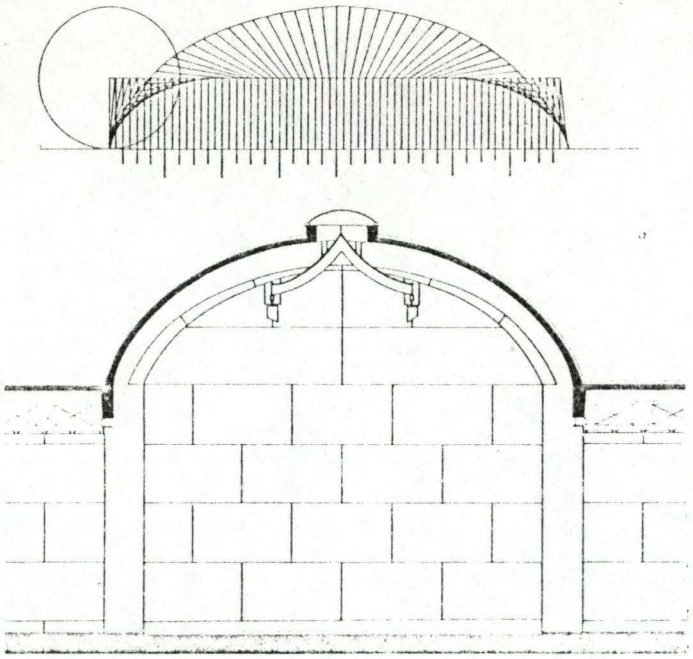
Light:

The discussion of luminous energy will be limited to the two principal areas in which this energy form, light, is necessary for the revelation of form or the rendition of color. Those spaces are the "gallery" and the "studio."

Daylight, if entering a gallery uncontrolled, will act as both the revealing energy and the destroying energy of many works of art. In order that the distructive actions of daylight be limited, this energy form must be recomposed or eliminated.[9]

The most recent method of light control is that of a separation of the ambient uses from the task uses. In this method, low level light is employed as a general illumination. A contrast is then created by increasing the intensity of the light on each work.[10]

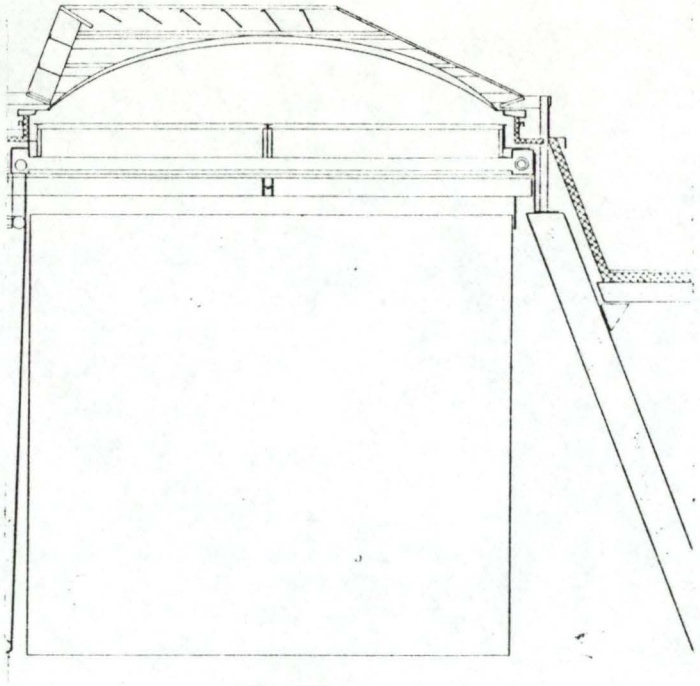
This method was used by Richard Kelley in collaboration with Louis Kahn on the following museums.



10. Kimbell Art Museum

Kimbell Art Museum

The method described on the preceeding page is used in this museum. A narrow slot runs through each concrete vault admitting small amounts of daylight. This light is then reshaped as it passes over two partially "transparent metal" semi-cycloids. Upon bouncing off the semi-cycloids, the light bounces off the vaults producing an even low level light. Electric spotlighting is used to illuminate the individual pieces and to provide the general illumination at night.[11]

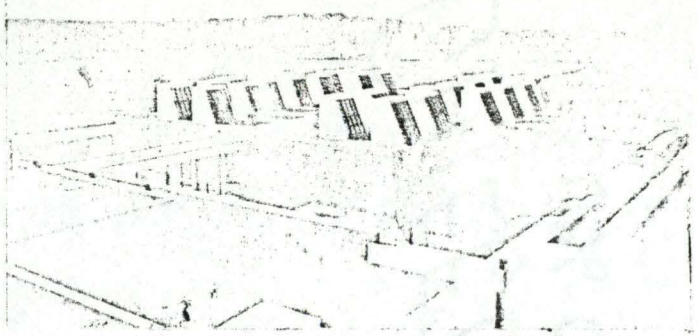


11. Paul Mellon Center, Yale

Paul Mellon Center for
British Art and British Studies - Yale

Following nine months of computer testing and calculations, Kelley and Kahn devised a system of louvers and diffusers which, used in conjunction with skylights in galleries, admits daylight for both ambient and task lighting. The elements in the system are exterior louvers covering the skylights, diffusers under the skylights, and a set of light colored baffles below the diffusers. "With this system, the daylight damage factor is below that of the incandescent spots used in other museums and galleries."[12] Even though the museum is not built yet, these factors are known due to extensive model testing.

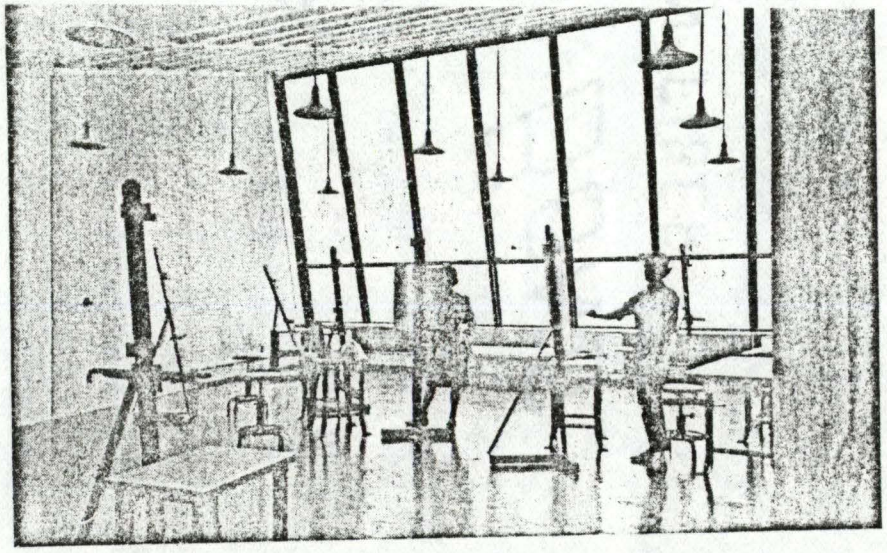
Studios also need methods of differentiating the task illumination from the general illumination. Daylight from the north has been the traditional light source for both conditions. Recent developments in illumination sources allow an unprecedented control over conditions. Due to economics though, these sources are generally not used. Fluorescent tubes are then installed resulting in glare, fuzzy images, and undifferentiated lighting condtions.



12. Benedicta College Fine Arts Center

Benedicta College Fine Arts Center

This facility uses large monitors on the roof to draw light into the studios. Other than the hood at the top of the monitor and the direction the glass faces, no other control method is used. The daylight is supplemented by fluorescent tube lighting. Exterior views are accommodated through vertical window slots located in each studio.[13]



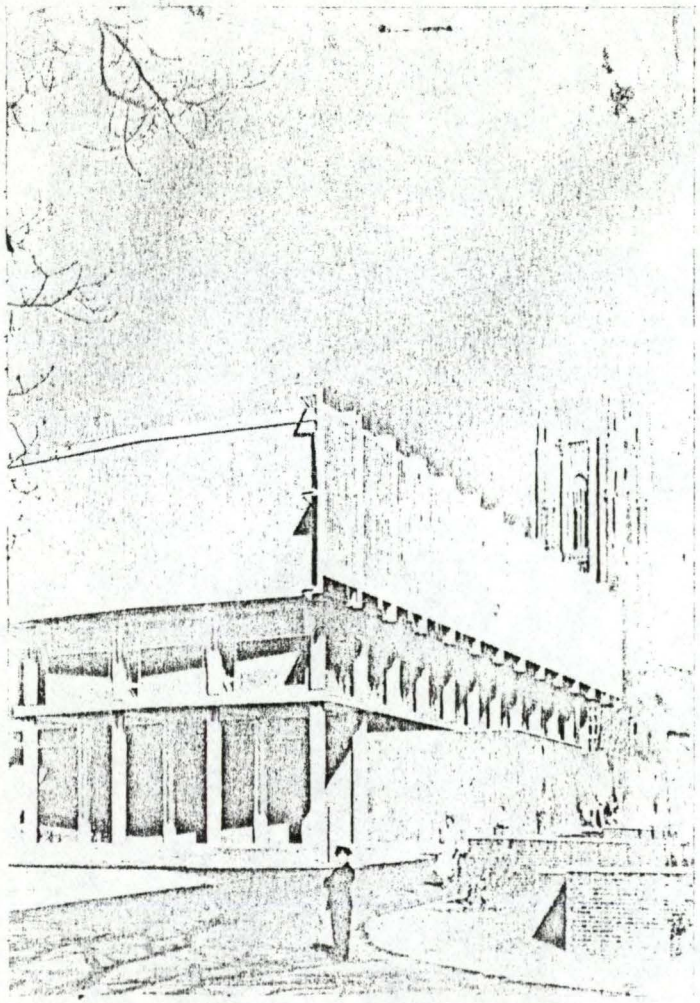
13. Brendeis University Visual Arts Center

Brandeis University Visual Arts Center

Large slanted sheets of glass facing north are used in both the standard and clerestory positions in this New England school. The light entering by this method is, in turn, supplemented by incandescent lighting. The major problem, unsolved in this case, is that of glare and shadows on the work surfaces.[14]

Philadelphia College of Art (project)

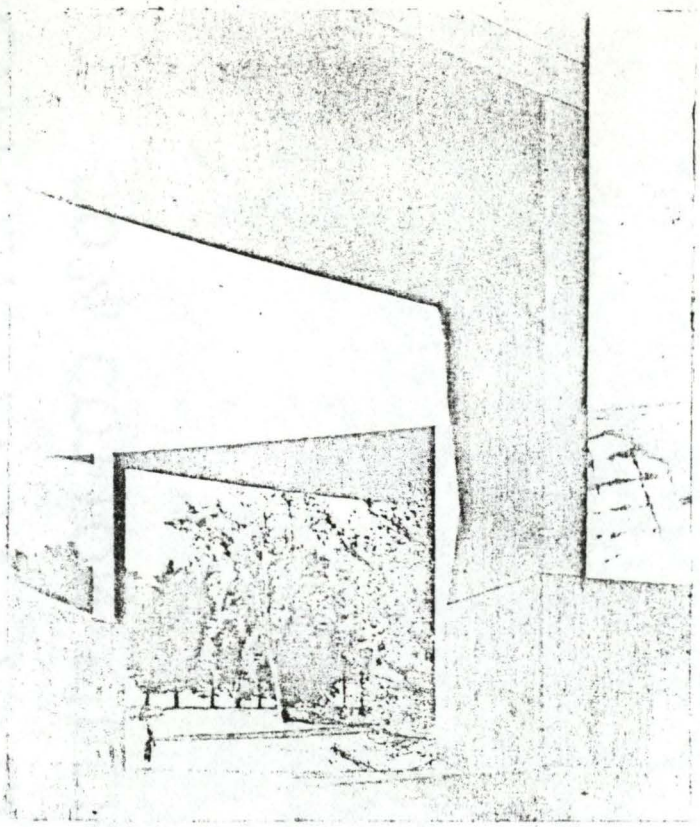
Conceived in the late 1960's, this proposed center concentrates studios and workshops in the northern section of the multistory structure. Light penetrates the center of the proposed structure through a large light monitor located over an interior court. The intent of this approach was a reduction in glare.[15]



14. Jewette Fine Arts Center

Jewett Fine Arts Center

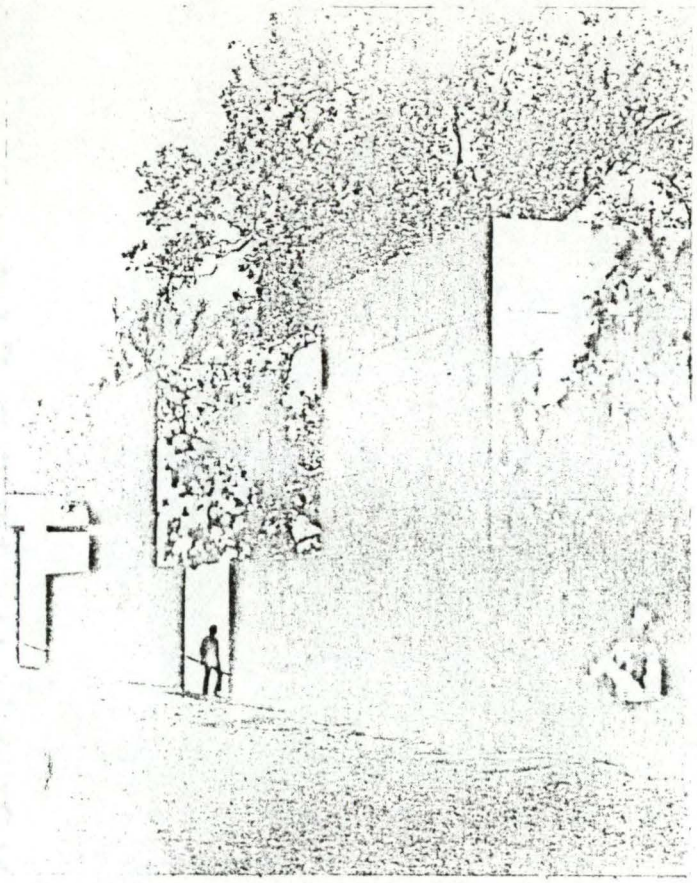
Paul Rudolph designed the Jewett Fine Arts Center to act as an entry point to the campus. An intricate series of steps and levels lead people from the parking areas to the new quadrangle formed by the new structure while passing under the new gallery. The gallery acts as a bridge to join the two disparate parts of the center. Even though the existing module, brick color, and vertical scale were retained, certain elements such as the sunscreens distract from the complex.[18]



15. Paul Mellon Arts Center, Choate School and Rosemary Hall

Paul Mellon Arts Center
Choate School and Rosemary Hall

The Paul Mellon Arts Center was designed to act as a link between and a gateway to each of these two preparatory schools. The complex is cut by a strong diagonal circulation route creating a courtyard between the two structures of the center. The courtyard doubles as an exterior exhibition space during months of pleasant weather. The coloration is similar to the existing schools yet the emphasis is reversed. Therefore, the new arts center blends with the older campus in coloration yet declares its newness and separate existence. The relationships work well due to the slight separation (due to zoning) between the new and existing structures.[19]



16. Wesleyan University

Wesleyan University Fine Arts Center

"Wesleyan's architects, Roche and Dinkeloo, created a subtle blend of the new buildings with the old through the retention of the existing scale in the area."[20] As can be seen by the plans and photographs, the new structures are essentially the same size and height as those buildings of an earlier era. The low series of buildings ring an existing playing field. Away from the field, the structures create courtyards suitable for exhibitions. Walkways and footpaths join the existing to the new physically while the use of the limestone as the predominant building material joins the buildings visually.

PROGRAM

Davidson's interest is in stimulating the student to work toward a high caliber output of work and to develop himself as much as possible. To accomplish this task though, high quality facilities are needed. There are many possible distractions which could be planned into a facility such as this, if the planner misunderstands some of the processes. Some of these distractions have been previously documented, such as inflexible lighting; yet others have not. Upon study of the following space allocations, it will be noted that (1) areas appear large in relation to class number, and (2) areas of possible overlap, do not. Relatively large areas are specified due to the nature of the work, i.e., large paintings and sculpture or large work tables for printing. Also, one should realize that overlappage of classes breaks the students' train of thought,

especially if the break occurs along subject lines such as being used for both painting and drawing.

Instructional Spaces:

Each studio or workshop should have its own peculiar characteristics inherent to each art form; yet, there are certain needs which are inherent to all. These needs include: light control (in various degrees), storage, and flexibility within the needs of each discipline. The following spaces enumerate some of the individual characteristics and methods of work in each area.

Painting Studio. The painting studio should be one of the more spacious areas in the complex. Many large paintings have been created in the past, and it can be foreseen that this practice will continue. These works

are done indoors; yet, movement of these large paintings to other galleries or home requires at least one large exit. Storage for students should be in lockers. Paintings are stored vertically within this space.

Drawing Studio. Drawing courses generally do not use the amount of space required for painting due mainly to the smaller size of the works. Control of light and control of view (during model drawing) is imperative. Storage of drawings will be in horizontal shelving.

Printing Studio. Printing studios are generally subdivided into these areas: work areas, presses, drying areas. Areas for each process should overlap yet the press area should remain a distinct entity.

Sculpture Studio. Although not to be included in contract documents with the

architect, certain space consuming tools are necessary in the operation of each of the three studio areas: woodworking, metal working, and ceramics. An accoustical and sound barrier separating these studo areas from any other is imperative. High ceilings or double stories will be needed in certain areas of the woodwork and metal work studio spaces.

Photography Studio. Two courses are being taught at the present time. One is a movie editing and film making course. The other is a studio course oriented to 35mm cameras. The film making course needs two areas: an editing area and a project room (lecture room).

Photographic labs shall consist of 3 small scale units to be used by faculty or students for demonstration purposes or general classwork. Each unit shall include enlargers, trays, and other photographic materials. Users will be

responsible for their own perishable photographic materials.

Lecture and Seminar Spaces. The lecture and seminar spaces should be equipped to handle students studying art history. Accordingly, the spaces must have controlled lighting and provisions for slide presentations. Sound amplification is not necessary in these small spaces.

Administrative and Resource Spaces:

Administrative. The administrative areas consist of the offices of the faculty and the office of the secretary/receptionist. As an incentive to maintain a highly qualified faculty, private studio spaces shall be provided adjacent to or as part of the office spaces. Offices of the art history professors shall be of comparable size to other offices

in the facility. In that the secretary/ receptionist serves both the public and the school, it is necessary that this space be located in a transitional area.

Slide Library. A branch of the Little Library will be established within the new facility. This unit will handle the department's slide collection and the department's periodical collection. Areas necessary for the operation of this facility include (1) circulation, (2) stacks, (3) casual reading and (4) light tables. Light conditions should vary from low intensity daylight in the casual reading area to very controlled in the area of the light tables.

Galleries:

An inherent part of any visual arts department is the galleries. The large gallery,

although small in comparison to museum galleries, is comparable to the square footage of the collegiate galleries in the state such as Cone Gallery at UNC-Greensboro. Recent exhibits in the present facilities include student and faculty work, print and drawing competitions, and touring shows.

The teaching gallery will be used for small student oriented exhibitions of short duration and for student juries.

SPACE ALLOCATIONS: INSTRUCTION SPACE

Space	Class Size Limitation
Painting Studio	15
2000 sq.ft.	
Drawing Studio	15
1000 sq.ft.	
Printing Studio	
2400 sq.ft.	
Silkscreen	10
Woodcut	10
Lithography	10
Metalwork	10
Etching	10
Sculpture	
2700 sq.ft.	
Woodwork	8
Ceramics	8
Metalwork	4
Photography	
300 sq.ft.	
Film making (editing and projection booth)	3
Still photography	6
Individual Spaces	1 ea.
3600 sq.ft. (20 @ 250)	

SPACE ALLOCATIONS: INSTRUCTION SPACE

Space	Class Size Limitation
Lecture 1500 sq.ft.	80
Seminar/Conference 1500 sq.ft. (3 @ 500)	12 ea.

ADMINISTRATIVE AND RESOURCES

Visual Arts 1700 sq.ft. (4 @ 425)	
Office/Studio (100)/(325)	1
Office/Studio	1
Office/Studio	1
Office/Studio	1
Art History 400 sq.ft. (2 @ 200)	
Office	1
Office	1
Secretary/Receptionist 125 sq.ft.	1
Slide and Periodical Library 1800 sq.ft.	16
Stacks	
Carrels	
Reading	

SPACE ALLOCATIONS: GALLERIES

Space		Space Size Limitation
Gallery	3150 sq.ft.	160
Teaching Gallery/ Jury Room	1350 sq.ft.	16
Gallery Storage	450 sq.ft.	
Studio Storage	500 sq.ft.	
SERVICES		
Lounge	600 sq.ft.	
Net Usable area	25,075 sq.ft.	
Lobby, Circulation, Walls Toilets Mechanical Maintenance	7,520 sq.ft. (.30 x Net Usable Area)	
Gross Area	32,595 sq.ft.	

SITE

Site Study and Concept:

Following several studies of the existing campus and the existing departmental relationships within the college, several basic design concepts emerged which redefine the existing spatial and structural sequences. The maps (pages 49-53) illustrate these spatial concepts.

The existing campus proper consists of twenty structures of various types, including dormitories, classrooms, administrative offices, libraries, student activities and a church. Spatially though, the campus consists of a series of interconnecting yet unorganized courtyards within which two focal points are located, the Davidson College Church and the Chambers Building. The primary thrust of the spatial concepts which emerged through the early studies is the enhanced awareness of these focal points and an organized spatial sequence through a contextural architectural

study. Within this broad spatial concept, implied existing and future physical boundaries, plus pedestrian routes reinforce or redefine focal points, courts, and transition spaces.

Selection of an area bounded by the Cunningham Fine Arts Building, and the Carnegie Guest House thus became inevitable due to the proximity of the site to vehicular access, pedestrain access, mechanical services, and the existing music and drama departments. Other site boundaries include a series of large oak trees to the south and east. Bi-secting the site is a major pedestrian route. One large oak stands in the rough center of the site.

ARCHITECTURAL CONCEPT

Architectural Concepts:

The architectural evolution of the facility can be read as the culmination of the site concepts and the programatic requirements. Major conceptual overlaps and conflicts eventually distilled into the schematic form statement. These overlaps and conflicts consists of circulation vs. courtyard boundaries, location vs. existing vegetation, programatic size and mass vs. existing scale and the desire to "fit in" vs. the desire to create a new image. One example of the tradeoff system employed to resolve the conflict is the use of materials and heights of existing structures to determine the facility's skin system and parapet height while the form and layout is an intricate composition of angular masses and volumes related through circulation and structural constraints.

ARCHITECTURAL DEVELOPMENT

Architectural Development:

Structure. During the schematic design phase several structural systems appropriate to the concept were investigated. Those systems included flat plates, waffle slabs, and space frames. The triangular waffle slab system was selected due to the use of standardized components (3'-0" grid, 30' module) and due to a potential for integration with many illumination systems. The circular concrete columns employed provide a simple method of detailing due to the angular conditions.

Building Envelope. The red brick and white limestone of the existing structures is the prime materials of the facility's envelope. Mullionless tinted glazing has been considered for the exterior fenestration. Interior finishes include brick, gypsum board painted, carpeted walls (in display areas), and

floor coverings appropriate to the usage. Reveals rather than bases and molding were used to better integrate the various materials. Illumination systems consist of track lighting with directed spots, skylights, fluorescents (studio areas), and directed incandescents (circulation spaces).

Mechanical. The mechanical systems used on the campus tie into the central physical plant. This system though, excludes year round temperature and climate control. Therefore, this structure ties into the central steam system; yet, provides its own chiller and cooling tower. Ventilation for such systems is through the roof. The chiller and steam lines are dispersed to various air handlers from the central mechanical space in the northeast corner of the structure. Thus the various air handlers distribute the

conditioned air throughout the facility in ducts above suspended gypsum board ceilings. Powered roof ventilators are provided in spaces of high dust content.

PRESENTATION

DAVIDSON COLLEGE
VISUAL ARTS FACILITY

ARCHITECTURE 859 SPRING TERM 1977 CHARLES R. FRANCIS

COMMITTEE.

RICHARD NORMAN

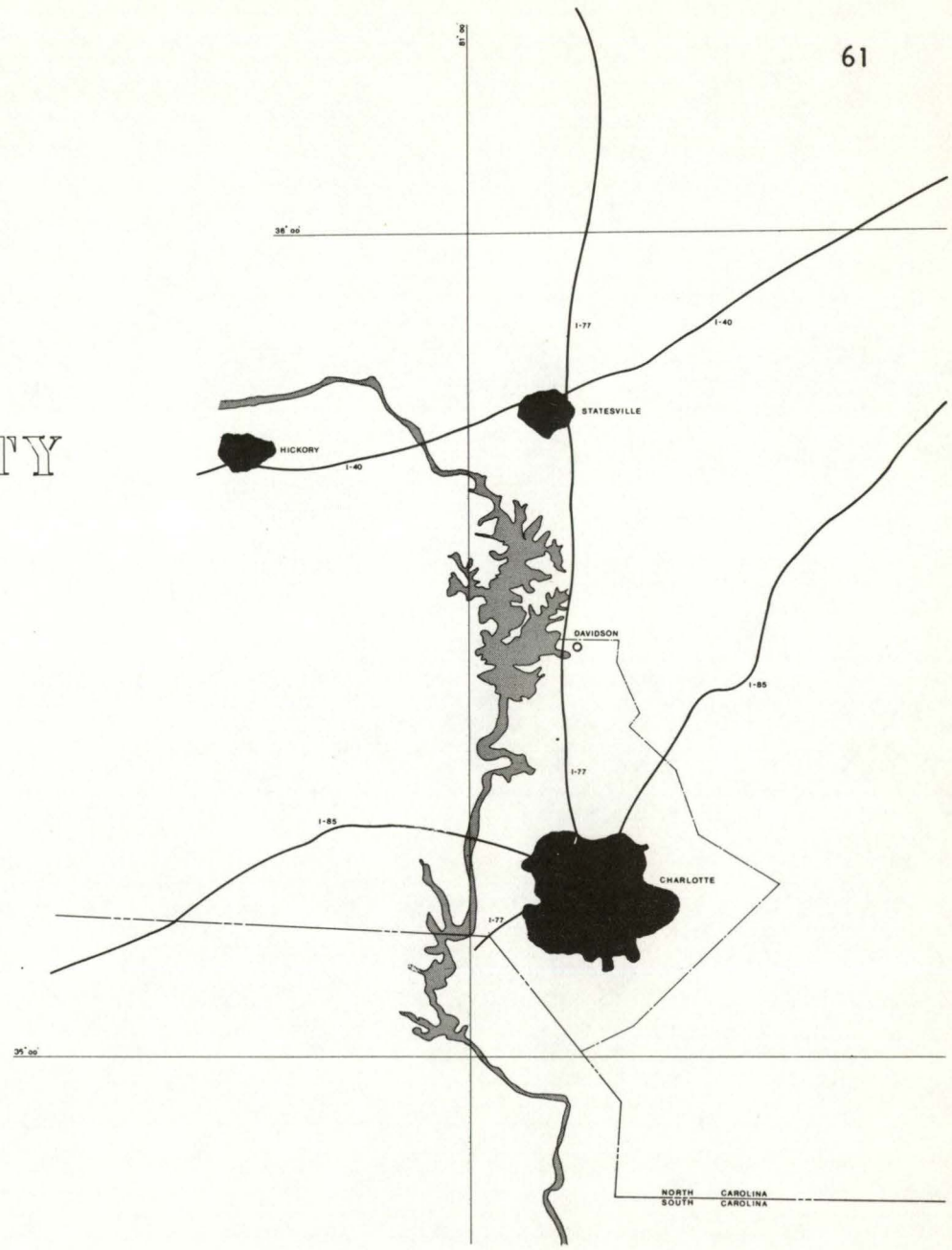
ARNOLD PHILLIPS

IRELAND REGNIER

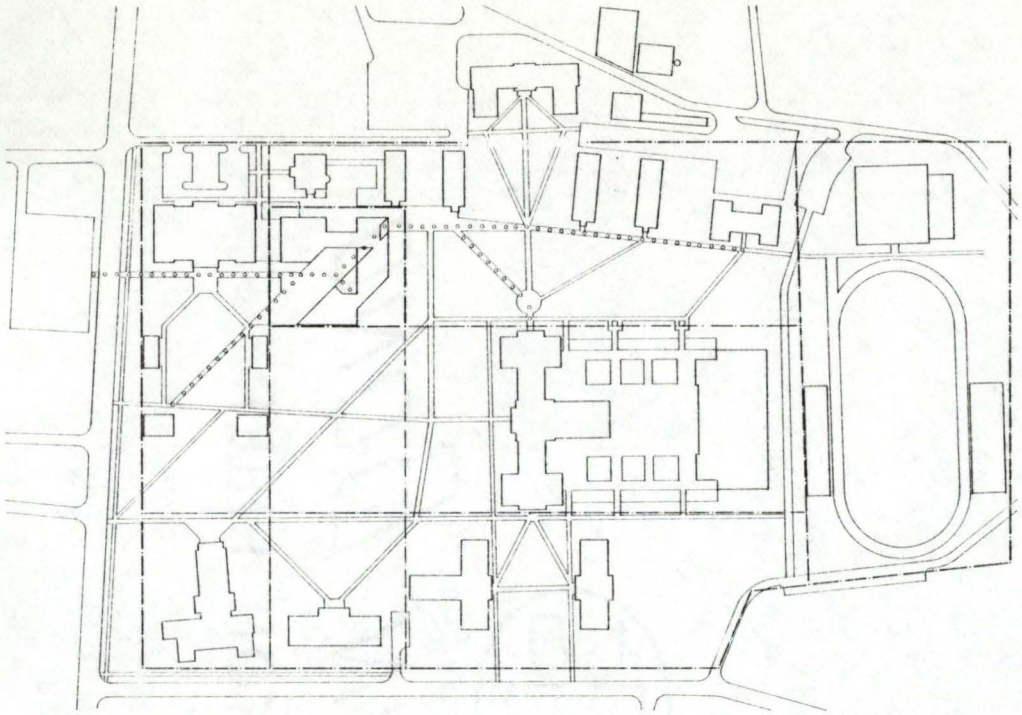
STUDIO CRITIC

WAYNE DRUMMOND

ROBERT EFLIN

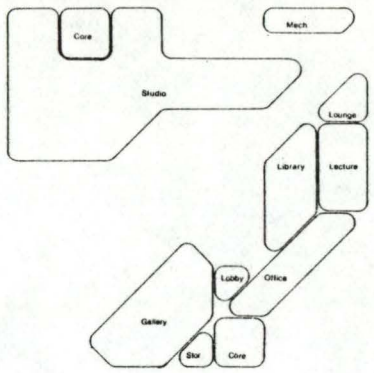


LOCATION

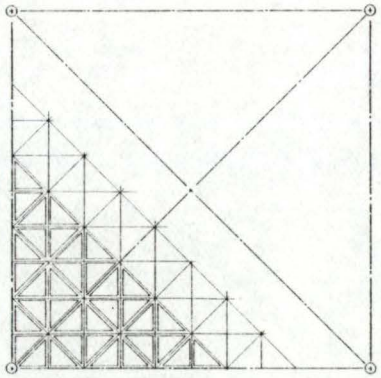


Campus

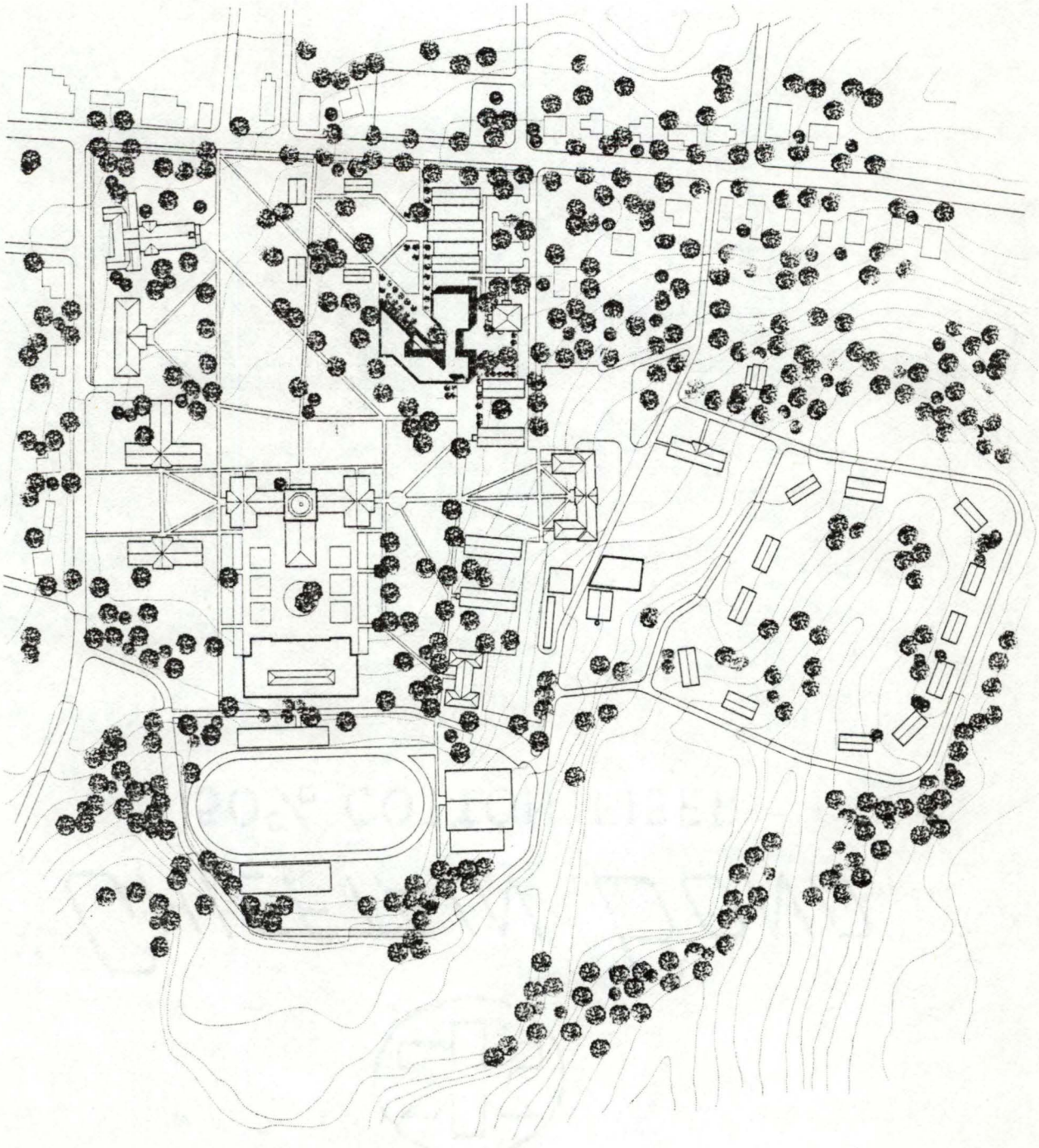
Circulation
Court Parameters



Program



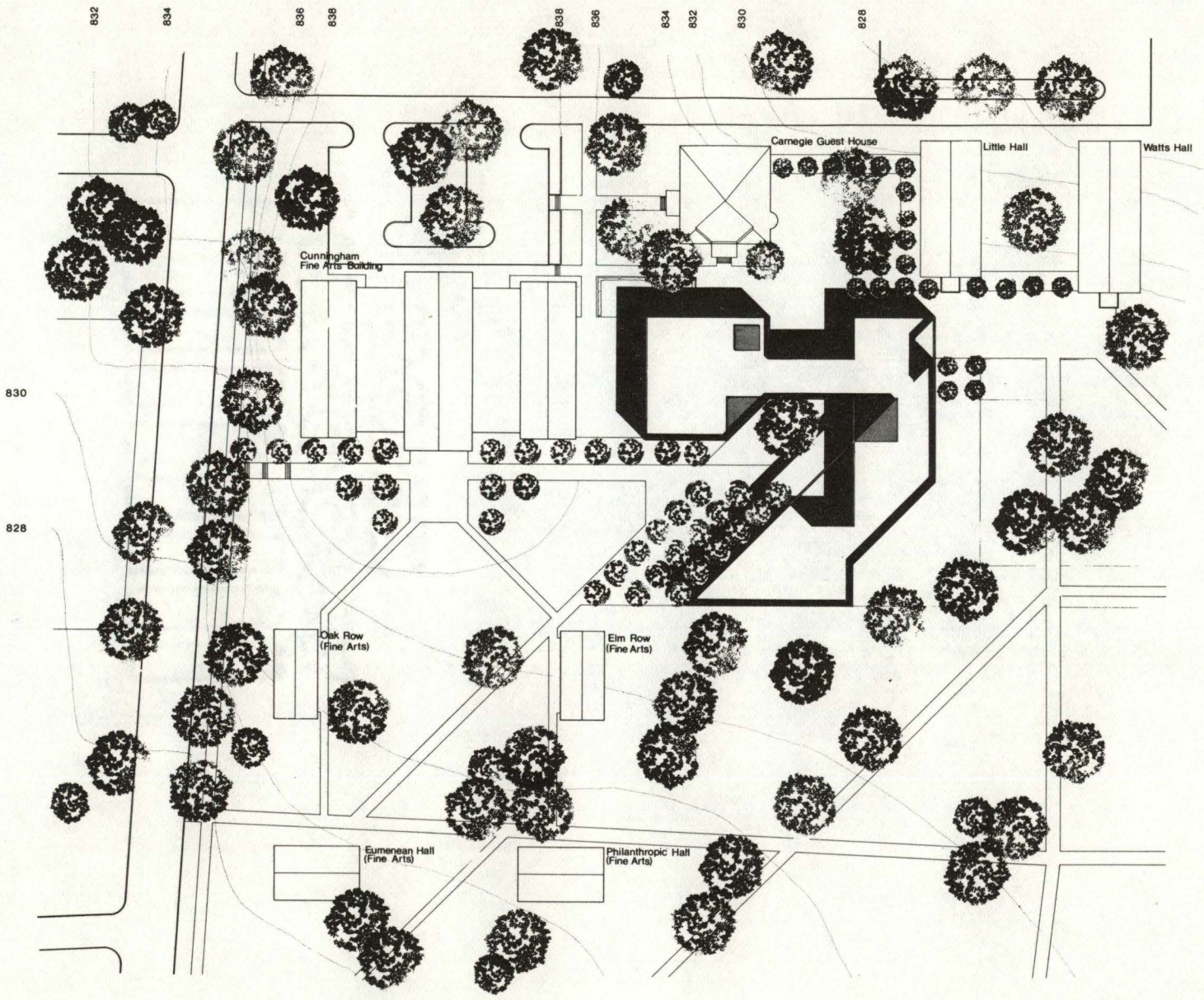
Structure



63

CAMPUS

0 25 50 100 200



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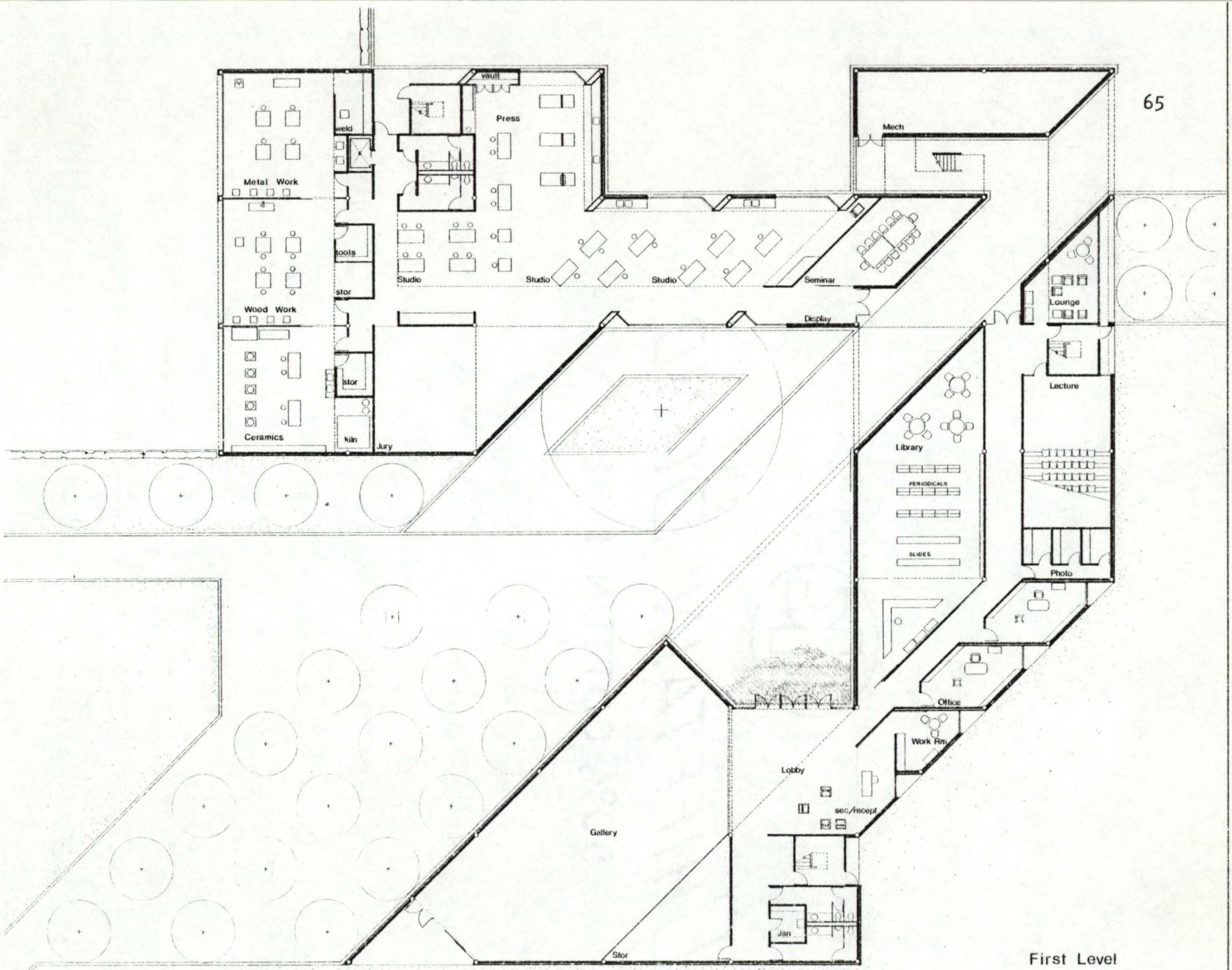
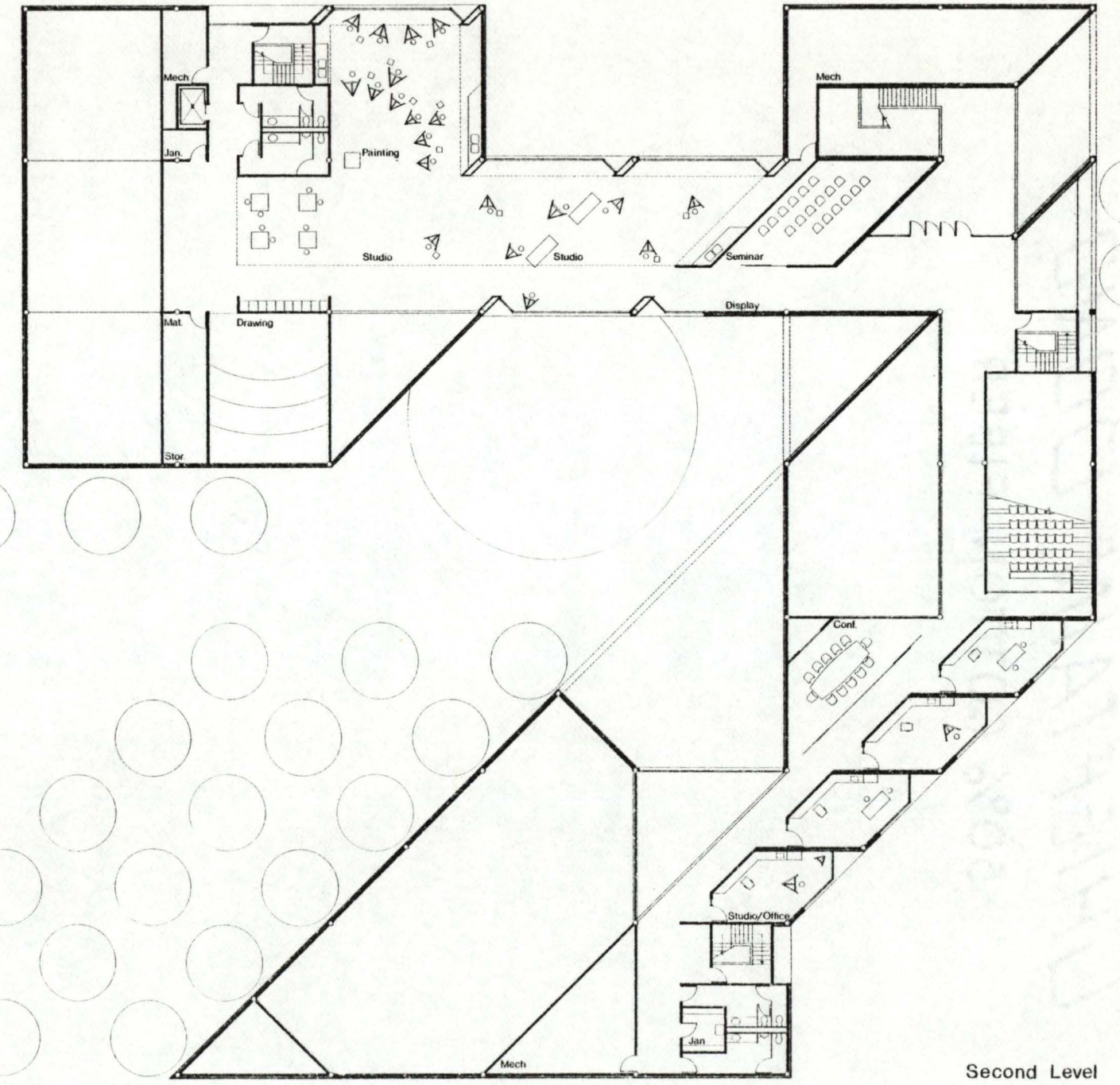
SITE



First Level

FLOOR PLAN

0 2 4 8 16

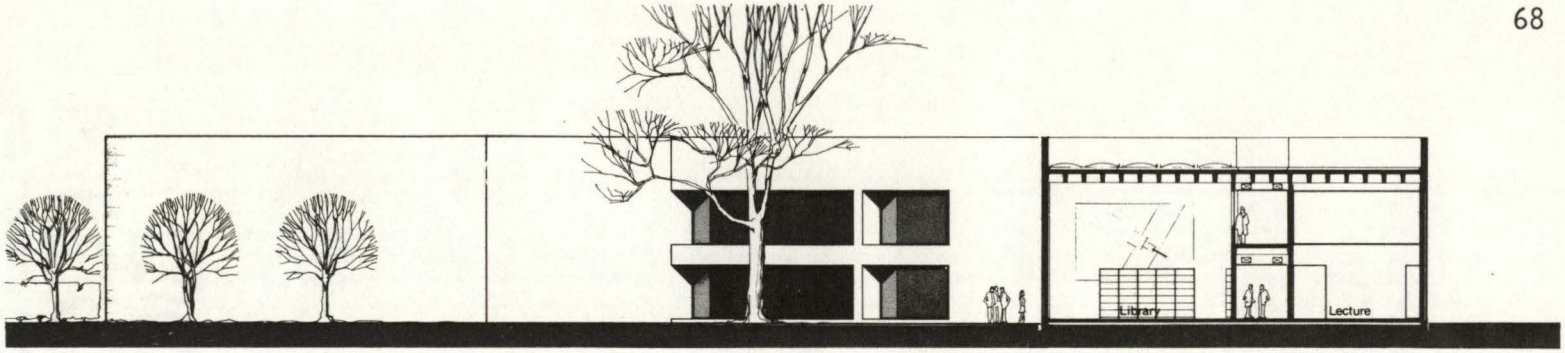


Second Level

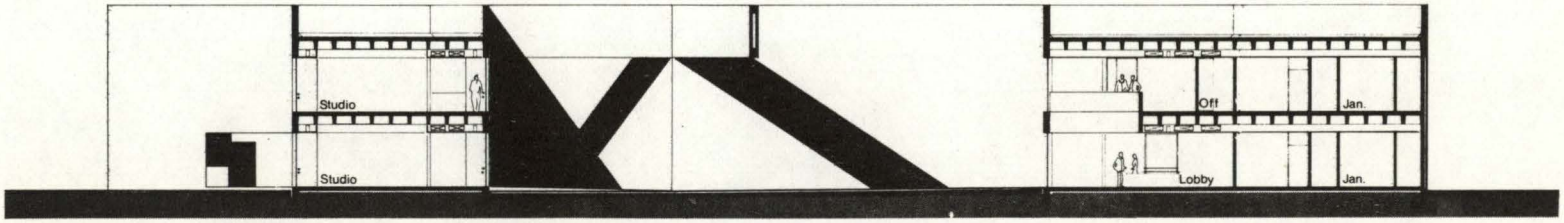
FLOOR PLAN

North

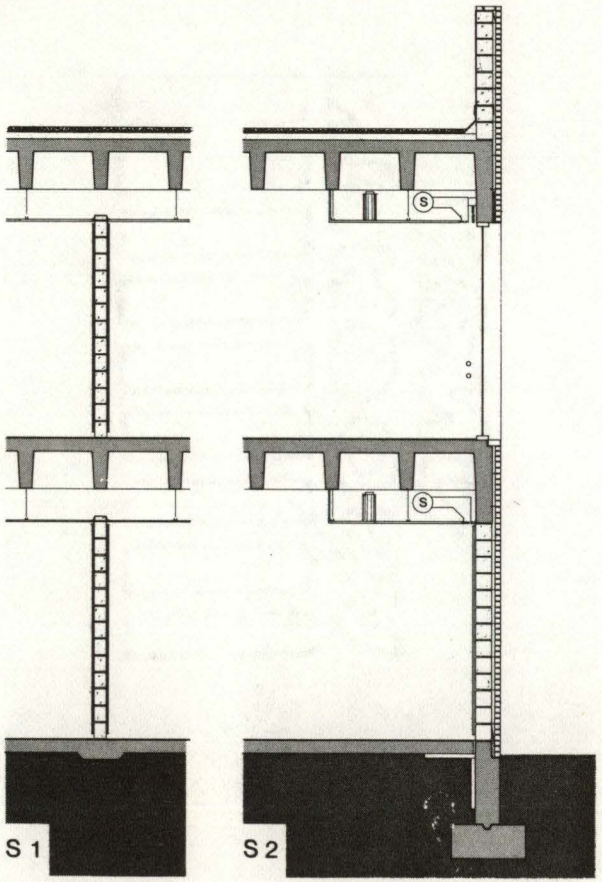
East

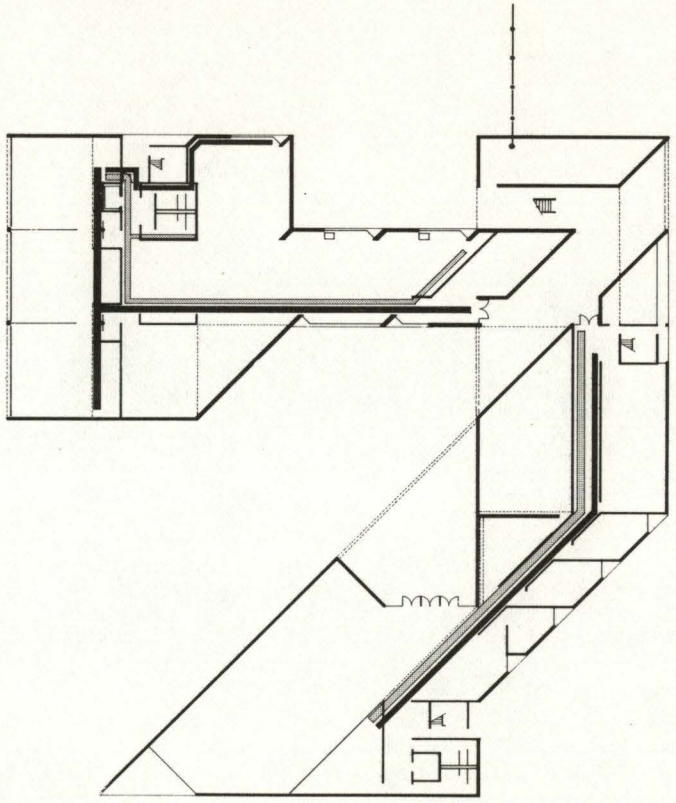


AA



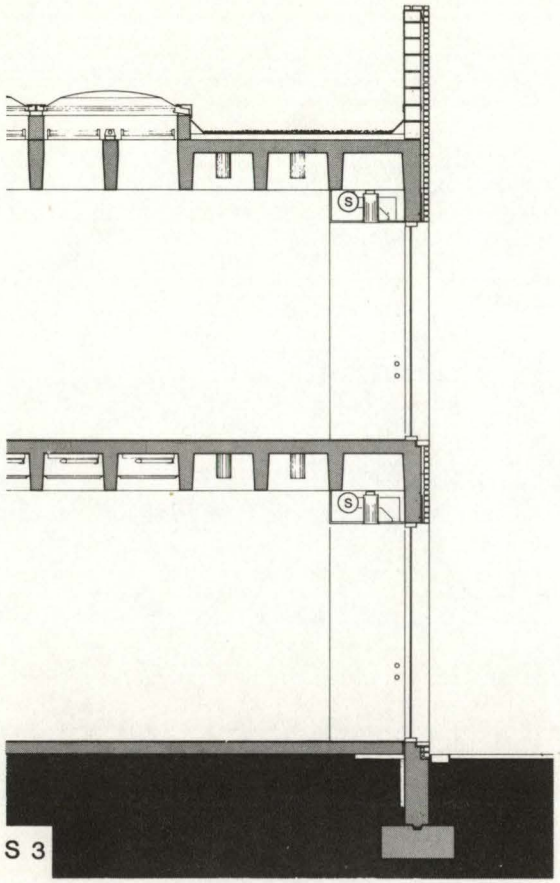
BB

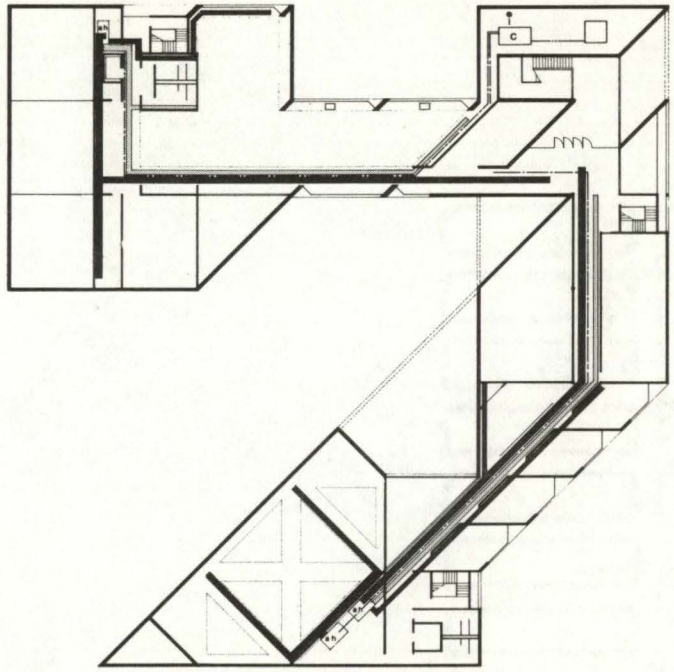




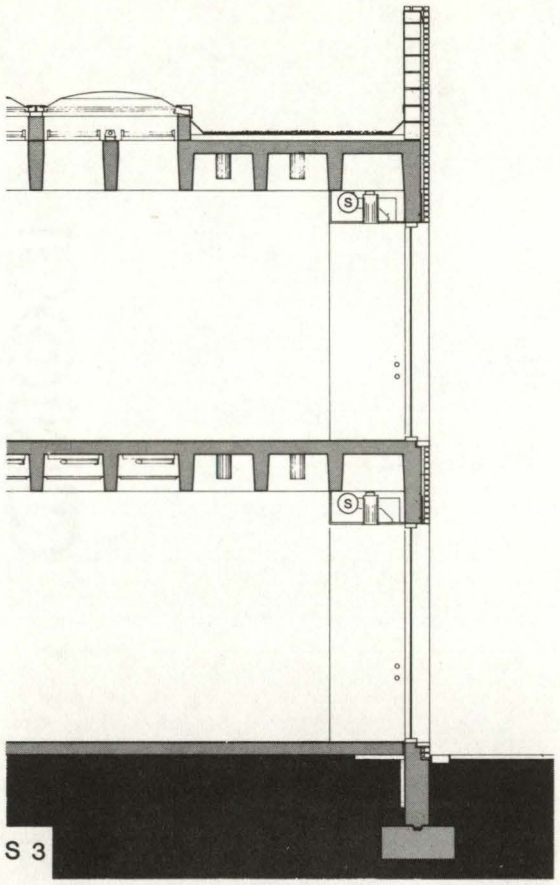
First Level

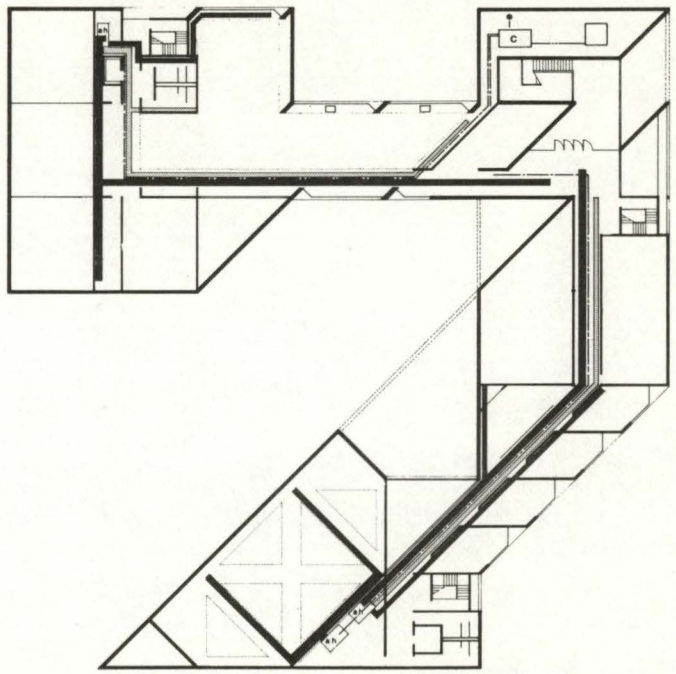
Supply
Return
ah Air Handler
c Chiller
Auxiliary Fan Coil
Steam Line
Hot & Cold Water Lines





Second Level





Second Level

CONCLUSION

Conclusion:

This study demonstrates that the design and construction of a contemporary structure for the Visual Arts Department on the Davidson College campus proper is feasible from an aesthetic and functional standpoint. The problem remains in the politics of architectural thought as understood by the existing Board of Trustees. The design concept, though, shows a method by which architectural problems, involving contextural restraints, are capable of being solved.

FOOTNOTES

1. Davidson College Update, February 1972, p. 1.

2. Ibid.

3. "Lighting Starts with Daylight," Progressive Architecture, (September 1973), p. 83.

4. "The Center for the Arts at Wesleyan University," Architectural Review, (May 1975), p. 102.

5. "Theory in Practice," Architectural Forum, (September 1972), p. 34.

6. "An Arts Center by I. M. Pei Designed to be a Gateway and Campus Center," Architectural Record, (January 1973), p. 91.

7. "Art Center by Rudolph Unveiled," Progressive Architecture, (May 1964), p. 57.

8. "Lighting Starts with Daylight," Progressive Architecture, (September 1973), p. 83.

9. Ibid., p. 85.

10. Ibid.

11. Ibid.

12. Ibid.

13. "Benedicta Arts Center," Architectural Record, (January 1973), p. 90.

14. "North Light in the Studio," Architectural Forum, (September 1963), p. 84.

15. "Louis Kahn, Recent Work," Architectural Forum, (September 1971), p. 52.

16. Ibid.

17. Ibid.

18. "New Architecture in an Old Setting," Architectural Record, (July 1959), p. 177.

19. "An Arts Center by I. M. Pei Designed to be a Gateway fand Campus Center," Architectural Record, (January 1973), p. 96.

20. "The Center for the Arts at Wesleyan University," Architectural Review, (May 1975), p. 104.

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"Benedicta Arts Center," Architectural Record, December 1964, pp. 116-119.

"Lighting Starts with Daylight," Progressive Architecture, September 1973, pp. 83-85.

"Louis Kahn, Recent Work," Architectural Forum, September 1971, pp. 41-59.

"New Architecture in an Old Setting," Architectural Record, July 1959, pp. 175-186.

"Northlight in the Studios," Architectural Forum, September 1963, pp. 84-85.

"The Center for the Arts at Wesleyan University," Architectural Review, May 1975, pp. 102-106.

"Theory in Practice," Architectural Forum, September 1972, pp. 34.35.